Inter-Mountain Labs
Your Environmental Monitoring Partner
1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

Date: 7/28/2017

CLIENT: Consolidated Analytical Systems
Project: S.H.Bell- Chicago, IL
Lab Order: S1707250

CASE NARRATIVE

Report ID: S1707250001

Samples 527.167 S4HV1-070617-R, and 527.168 S4HV2-070917-R were received on July 14, 2017.

All samples were received and analyzed within the EPA recommended holding times, except those noted below in this case narrative. Samples were analyzed using the methods outlined in the following references:

"Standard Methods For The Examination of Water and Wastewater", approved method versions
Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition
40 CFR Parts 136 and 141
40 CFR Part 50, Appendices B, J, L, and O
Methods indicated in the Methods Update Rule published in the Federal Register Friday, May 18, 2012
ASTM approved and recognized standards

All Quality Control parameters met the acceptance criteria defined by EPA and Inter-Mountain Laboratories except as indicated in this case narrative.

Reviewed by: John M. Jacobs
John Jacobs, Project Manager

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Sample Analysis Report

CLIENT: Consolidated Analytical Systems
201 S. Miami Ave
Cleves, OH 45002

Date Reported: 7/28/2017
Report ID: S1707250001

Client Sample ID: 527.167 S4HV1-070617-R
Project: S.H.Bell- Chicago, IL
Matrix: airfilter
COC ID: WEB

Collection Date: 7/6/2017
Date Received: 7/14/2017 10:50:00 AM
Lab ID: S1707250-001
Work Order: S1707250

Analyses	Result	RL	MDL	Qual	Units	Method	Date Analyzed/Init
Field							
Actual Volume	1672				m^3	Field	07/06/2017 000
IO-3.5 TSP							
Arsenic	2.46	5	0.628	J	µg/Filter	IO-3.5	07/19/2017 1632 MS
Cadmium	0.40	5	0.19	J	µg/Filter	IO-3.5	07/19/2017 1632 MS
Chromium	56	5	0.165		µg/Filter	IO-3.5	07/19/2017 1632 MS
Lead	10	5	0.00999		µg/Filter	IO-3.5	07/19/2017 1632 MS
Manganese	314	5	0.0535		µg/Filter	IO-3.5	07/19/2017 1632 MS
Nickel	2.61	5	0.16	J	µg/Filter	IO-3.5	07/19/2017 1632 MS
Vanadium	2.75	5	0.388	J	µg/Filter	IO-3.5	07/19/2017 1632 MS
Filter Metals Concentration							
Arsenic	1.47	2.99	0.376	J	ng/m^3	IO-3.5	07/28/2017 1108 JJ
Cadmium	0.239	2.99	0.114	J	ng/m^3	IO-3.5	07/28/2017 1108 JJ
Chromium	33.5	2.99	0.0987		ng/m^3	IO-3.5	07/28/2017 1108 JJ
Lead	0.00581	0.00299	0.00000598		$µg/m^3$	IO-3.5	07/28/2017 1108 JJ
Manganese	188	2.99	0.032		ng/m^3	IO-3.5	07/28/2017 1108 JJ
Nickel	1.56	2.99	0.0957	J	ng/m^3	IO-3.5	07/28/2017 1108 JJ
Vanadium	1.65	2.99	0.232	J	ng/m^3	IO-3.5	07/28/2017 1108 JJ

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:

B	Analyte detected in the associated Method Blank
C	Calculated Value
E	Value above quantitation range
G	Analyzed at IML Gillette laboratory
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits
L	Analyzed by another laboratory
M	Value exceeds Monthly Ave or MCL or is less than LCL
ND	Not Detected at the Reporting Limit
O	Outside the Range of Dilutions
S	Spike Recovery outside accepted recovery limits
X	Matrix Effect

Reviewed by: John M. Jacobs
John Jacobs, Project Manager

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Sample Analysis Report

CLIENT: Consolidated Analytical Systems
201 S. Miami Ave
Cleves, OH 45002

Date Reported: 7/28/2017
Report ID: S1707250001

Client Sample ID: 527.168 S4HV2-070917-R
Project: S.H.Bell- Chicago, IL
Matrix: airfilter
COC ID: WEB

Collection Date: 7/9/2017
Date Received: 7/14/2017 10:50:00 AM
Lab ID: S1707250-002
Work Order: S1707250

Analyses	Result	RL	MDL	Qual	Units	Method	Date Analyzed/Init
Field							
Actual Volume	1659				m^3	Field	07/09/2017 000
IO-3.5 TSP							
Arsenic	1.59	5	0.628	J	µg/Filter	IO-3.5	07/19/2017 1655 MS
Cadmium	1.32	5	0.19	J	µg/Filter	IO-3.5	07/19/2017 1655 MS
Chromium	52	5	0.165		µg/Filter	IO-3.5	07/19/2017 1655 MS
Lead	9	5	0.00999		µg/Filter	IO-3.5	07/19/2017 1655 MS
Manganese	214	5	0.0535		µg/Filter	IO-3.5	07/19/2017 1655 MS
Nickel	2.64	5	0.16	J	µg/Filter	IO-3.5	07/19/2017 1655 MS
Vanadium	3.33	5	0.388	J	µg/Filter	IO-3.5	07/19/2017 1655 MS
Filter Metals Concentration							
Arsenic	0.956	3.01	0.379	J	ng/m^3	IO-3.5	07/28/2017 1108 JJ
Cadmium	0.796	3.01	0.115	J	ng/m^3	IO-3.5	07/28/2017 1108 JJ
Chromium	31.1	3.01	0.0995		ng/m^3	IO-3.5	07/28/2017 1108 JJ
Lead	0.00554	0.00301	0.00000602		$µg/m^3$	IO-3.5	07/28/2017 1108 JJ
Manganese	129	3.01	0.0322		ng/m^3	IO-3.5	07/28/2017 1108 JJ
Nickel	1.59	3.01	0.0964	J	ng/m^3	IO-3.5	07/28/2017 1108 JJ
Vanadium	2.01	3.01	0.234	J	ng/m^3	IO-3.5	07/28/2017 1108 JJ

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
L	Analyzed by another laboratory
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits
C	Calculated Value
G	Analyzed at IML Gillette laboratory
J	Analyte detected below quantitation limits
M	Value exceeds Monthly Ave or MCL or is less than LCL
O	Outside the Range of Dilutions
X	Matrix Effect

Reviewed by: John M. Jacobs
John Jacobs, Project Manager

EPA-R5-2018-000717_0000590

Inter-Mountain Labs

Sheridan, WY and Gillette, WY

- CHAIN OF CUSTODY RECORD -

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#WEB 10125

All shaded fields must be completed.

This is a legal document; any misrepresentation may be construed as fraud.

Client Name	Project Identification	Sampler (Signature/Attestation of Authenticity)	Telephone #
Consolidated Analytical Systems (CAS)	S.H. Bell - Chicago, IL		513-542-1200

Report Address	Contact Name	Email	Phone
201 S. Miami Avenue Cleves, OH 45002	Meredith Cloran	mcloran@cas-en.com	513-542-1200

Invoice Address	Purchase Order #	Quote #
201 S. Miami Avenue Cleves, OH 45002	17-2507	CAS1702231

ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION	Matrix	# of Containers	PM10 Gravimetric A	IO-3.1 for air filters	IO-3.5 Metals on air	REMARKS
1	1707250-001	7/6/17		S4HV1-070617-R	FT	1	x	x	x	See Field envelope
2	002	7/9/17		S4HV2-070917-R	FT	1	x	x	x	See Field envelope
3				MMDDYY						
4										
5										
6				Date Mailed = 7/10/17						
7										
8										
9										
10										
11										
12										
13										
14										

ANALYSES / PARAMETERS

LAB COMMENTS	Relinquished By (Signature/Printed)	DATE	TIME	Received By (Signature/Printed)	DATE	TIME
	Scott Kroon	7/10/17	1:00	Mary Hannan IML	7/14/17	1050
	Mary Hannan IML	7/18/17	0737	Kathy Boyd IML	7.18.17	7:37

SHIPPING INFO	MATRIX CODES		TURN AROUND TIMES	COMPLIANCE INFORMATION		ADDITIONAL REMARKS
☐ UPS	Water	WT	Check desired service	Compliance Monitoring ?	Y	Collected: 7/10/17
☐ FedEx	Soil	SL	☒ Standard turnaround	Program (SDWA, NPDES,...)	CAA 114a	
☐ USPS	Solid	SD	☐ RUSH - 5 Working Days	PWSID / Permit #		Filter identification(mmddyy) / Filter number(---.---)
☐ Hand Carried	Filter	FT	☐ URGENT - < 2 Working Days	Chlorinated?	N	S4HV1-070617-R 527.167
☐ Other	Other	OT	*Rush & Urgent Surcharges will be applied*	Sample Disposal: Lab x	Client	S4HV2-070917-R 527.168

INTER-MOUNTAIN LABS

Survey Meter # Model 2241-2; SN 182115
pH strip lot # HC54770
Thermometer SN# 27130475

Condition Upon Receipt (Attach to COC)

Sample Receipt

1 Number of ice chests/packages received: 1 ROI? Yes No
Note as "OTC" if samples are received over the counter, unpackaged

2 Temperature of cooler/samples. *(If more than 8 coolers, please write on back)*

Temps Observed (°C):							
Temps Corrected (°C):							

***Acceptable is: 0.1° to 10°C** for Bacteria; and 0.1° to 6°C for most other water parameters. Samples may not have had adequate time to cool following collection. Indicate ROI (Received on Ice) for iced samples received on the same day as sampled, in addition to temperature at receipt.*

Client contact for temperatures outside method criteria must be documented below.

3 Emission rate of samples for radiochemical analyses < 0.5mR/hr? Yes No (N/A)
4 COC Number (If applicable): WRB 10125
5 Do the number of bottles agree with the COC? (Yes) No N/A
6 Were the samples received intact? *(no broken bottles, leaks, etc.)* (Yes) No N/A
7 Were the sample custody seals intact? Yes No (N/A)
8 Is the COC properly completed, legible, and signed? (Yes) No

Sample Verification, Labeling & Distribution

1 Were all requested analyses understood and appropriate? (Yes) No
2 Did the bottle labels correspond with the COC information? (Yes) No
3 Samples collected in method-prescribed containers? (Yes) No
4 Sample Preservation:

pH at Receipt:	Final pH (if added in lab):	Preservative/Lot#	Date/Time Added:
_____ Total Metals	_____ Total Metals	HNO_3 _____	_____
_____ Diss Metals	_____ Diss Metals	*Filtered and preserved in metals*	*Filtered and preserved in metals*
_____ Nutrient	_____ Nutrient	H_2SO_4 _____	
_____ Cyanide	_____ Cyanide	NaOH _____	
_____ Sulfide	_____ Sulfide	ZnAcet _____	
_____ Phenol	_____ Phenol	H_2SO_4 _____	

5 VOA vials have <6mm headspace? Yes No (N/A)
6 Were all analyses within holding time at the time of receipt? (Yes) No
7 Specially requested detection limits (RLs) assigned? Yes No (N/A)
8 Have rush or project due dates been checked and accepted? Yes No (N/A)
9 Do samples require subcontracted analyses? Yes (No)
If "Yes", which type of subcontracting is required? General Customer-Specified Certified

Sample Receipt, Verification, Login, Labeling & Distribution completed by *(initials)*: KB
Set ID: S1707250

Discrepancy Documentation *(use back of sheet for notes on discrepancies)*

Any items listed above with a response of "No" or do not meet specifications must be resolved.

Person Contacted: _____ Method of Contact: __ Phone: _____
Initiated By: _____ Date/Time: _____ __ Email: _____
Problem:

Resolution: